What is claimed is:

1. A method for manufacturing ceramics comprising a step of forming a ceramic film on a substrate by mixing a fine particle of a raw material species which becomes at least part of raw materials for ceramics with an active species, and feeding the mixed fine particle and active species to the substrate.

2. The method for manufacturing ceramics according to claim 1,

wherein a diameter of the fine particle is 0.1 μm or less.

3. The method for manufacturing ceramics according to claim 1,

wherein a diameter of the fine particle is 0.01 μm or less.

4. The method for manufacturing ceramics according to claim 1,

wherein the fine particle is electrically charged.

5. The method for manufacturing ceramics according to claim 1,

wherein the fine particle of the raw material species is gasified before being mixed with the active species.

6. The method for manufacturing ceramics according to claim 1,

wherein the active species is a radical or an ion.

7. The method for manufacturing ceramics according to claim 6,

wherein the active species is a radical or an ion of the raw material species which becomes part of the raw materials for ceramics.

8. The method for manufacturing ceramics according to claim 6,

wherein the active species is a radical or an ion of oxygen or nitrogen.

9. The method for manufacturing ceramics according to claim 6,

wherein the active species is an ion obtained by activating inert gas.

10. The method for manufacturing ceramics according to claim 9,

wherein the inert gas is an ion of argon or xenon.

11. The method for manufacturing ceramics according to claim 1,

wherein at least the active species is fed to the substrate in an accelerated state.

12. The method for manufacturing ceramics according to claim 1,

wherein the ceramic film is formed on part of the substrate.

13. The method for manufacturing ceramics according to claim 12,

further comprising a step of forming a film-forming region having affinity to ceramics to be formed, and a non-film-forming region having no affinity to the ceramics to be formed, thereby self-alignably forming a ceramic film in the film-forming region.

14. The method for manufacturing ceramics according to claim 1,

wherein the ceramic film is formed by an LSMCD process or a misted CVD process.

15. The method for manufacturing ceramics according to claim 1,

wherein the ceramic film is a dielectric.

16. The method for manufacturing ceramics according to claim 15,

wherein the dielectric is formed at a temperature of 600°C or less.

17. The method for manufacturing ceramics according to claim 15,

wherein the dielectric is formed at a temperature of 450°C or less.

18. A device for manufacturing ceramics comprising:

a disposing section for a substrate on which ceramics is formed;

a heating section for heating the substrate to a given temperature;

a raw material species feeding section for feeding a fine particle of a raw material species which becomes at least part of the raw materials for the ceramics;

an active species feeding section for feeding an active species; and

a mixing section for mixing the raw material species fed from the raw material species feeding section and the active species fed from the active species feeding section,

wherein a film formation is performed by mixing the raw material species and the active species and feeding the mixed raw material species and active species to the substrate.

19. The device for manufacturing ceramics according to claim 18,

wherein the film formation is performed by an LSMCD process or a misted CVD process.

20. The device for manufacturing ceramics according to claim 18,

wherein the raw material species feeding section decreases a diameter of the fine particle to 0.1 μm or less.

21. The device for manufacturing ceramics according to claim 18,

wherein the raw material species feeding section decreases a diameter of the fine particle to 0.01 μm or less.

22. The device for manufacturing ceramics according to claim 18,

wherein the fine particle is electrically charged.

23. The device for manufacturing ceramics according to claim 18,

wherein the raw material species feeding section comprises a raw material storing section, and a mist-forming section which makes the raw materials fed from the raw material storing section, into the fine particle.

24. The device for manufacturing ceramics according to claim 23,

wherein the raw material species feeding section further comprises a heating section which gasifies the fine particle.

25. The device for manufacturing ceramics according to

claim 18,

wherein the active species feeding section feeds the active species formed of a radical or an ion.

26. The device for manufacturing ceramics according to claim 25,

wherein the active species is a radical or an ion of the raw material species which becomes part of the raw materials for ceramics.

27. The device for manufacturing ceramics according to claim 25,

wherein the active species is a radical or an ion of oxygen or nitrogen.

28. The device for manufacturing ceramics according to claim 25,

wherein the active species is an ion obtained by activating inert gas.

29. The device for manufacturing ceramics according to claim 28,

wherein the inert gas is an ion of argon or xenon.

30. The device for manufacturing ceramics according to claim 18,

wherein at least the active species is fed to the substrate

in an accelerated state.

31. A semiconductor device comprising a capacitor which includes a dielectric film formed by the manufacture method as defined in any one of claims 1 to 17.

32. A ferroelectric memory device according to claim 31, comprising a CMOS region and a capacitor region having a capacitor including ferroelectrics.

33. A piezoelectric device comprising a dielectric film formed by the manufacture method as defined in any one of claims 1 to 17.